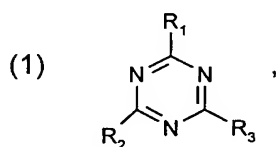


Patent claims:

1. Use of a mixture of micronised organic UV filters in protecting human and animal skin and hair against the damaging effect of UV radiation.

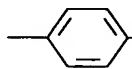
2. Use according to claim 1, wherein the organic UV filters are selected from triazine or benzotriazole derivatives, amides containing a vinyl group, cinnamic acid derivatives, sulfonated benzimidazoles, Fischer base derivatives, diphenylmalonic acid dinitriles, oxalyl amides, camphor derivatives, diphenyl acrylates, para-aminobenzoic acid (PABA) and derivatives thereof, salicylates and benzophenones.

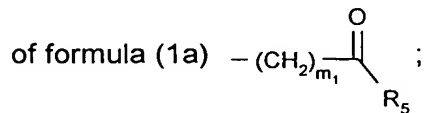
3. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula



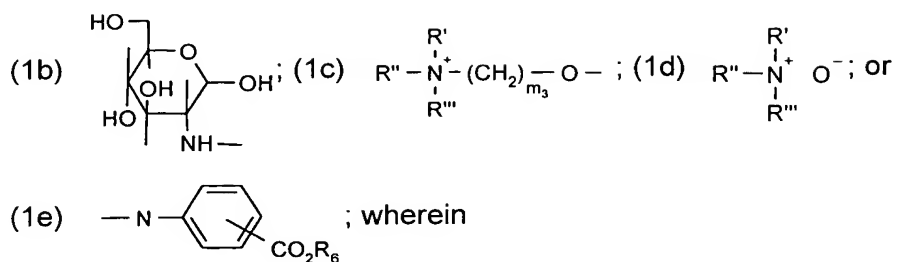
wherein

R_1 , R_2 and R_3 are each independently of the others hydrogen; OH; C_1 - C_{18} alkoxy; $-NH_2$; $-NH-R_4$; $-N(R_4)_2$; $-OR_4$,

R_4 is C_1 - C_5 alkyl; phenyl; phenoxy; anilino; pyrrolo, wherein phenyl, phenoxy, anilino and pyrrolo are unsubstituted or may be substituted by one, two or three OH groups, carboxy, $-CO-NH_2$, C_1 - C_5 alkyl or C_1 - C_5 alkoxy; a methylenecamphor group; a group of formula $-(CH=CH)_mC(=O)-OR_4$; a group of formula  or a corresponding alkali metal, ammonium, mono-, di- or tri- C_1 - C_4 alkylammonium, mono-, di- or tri- C_2 - C_4 alkanolammonium salt, or a C_1 - C_3 alkyl ester thereof; or a radical



R_5 is hydrogen; C_1 - C_5 alkyl unsubstituted or substituted by one or more OH groups; C_1 - C_5 alkoxy; amino; mono- or di- C_1 - C_5 alkylamino; M; a radical of formula



R' , R'' and R''' are each independently of the others C_1 - C_{14} alkyl unsubstituted or substituted by one or more OH groups;

R_6 is hydrogen; M ; C_1 - C_5 alkyl; or a radical of formula $-(CH_2)_{m_2}-O-T_1$;

M is a metal cation;

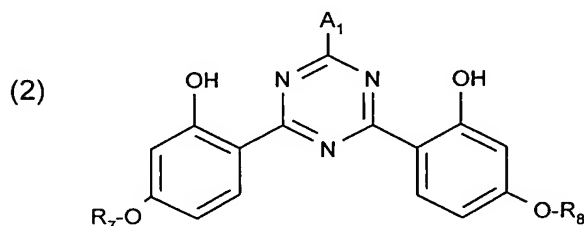
T_1 is hydrogen; or C_1 - C_8 alkyl;

m is 0 or 1;

m_2 is from 1 to 4; and

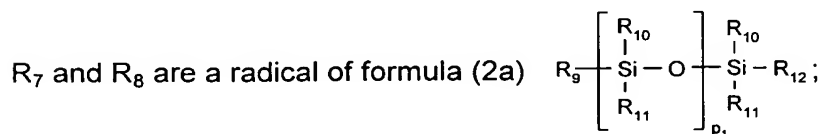
m_3 is from 2 to 14.

4. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula



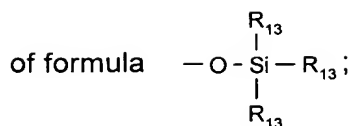
wherein

R_7 and R_8 are each independently of the other C_1 - C_{18} alkyl; C_2 - C_{18} alkenyl; a radical of formula $-CH_2-CH(OH)-CH_2-O-T_1$; or



R_9 is a direct bond; a straight-chain or branched C_1 - C_4 alkylene radical or a radical of formula $-C_{m_1}H_{2m_1}-O-$;

R_{10} , R_{11} and R_{12} are each independently of the others C_1 - C_{18} alkyl; C_1 - C_{18} alkoxy or a radical

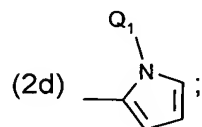
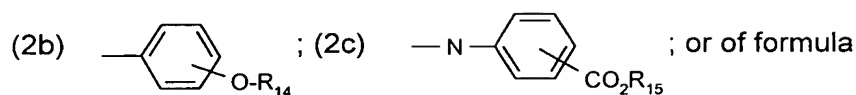


R₁₃ is C₁-C₅alkyl;

m₁ is from 1 to 4;

p₁ is from 0 to 5;

A₁ is a radical of formula



R₁₄ is hydrogen; C₁-C₁₀alkyl, $-(\text{CH}_2\text{CHR}_{16}-\text{O})_{n_1}-\text{R}_{15}$; or a radical of formula



R₁₅ is hydrogen; M; C₁-C₅alkyl; or a radical of formula $-(\text{CH}_2)_{m_2}-\text{O}-(\text{CH}_2)_{m_3}-\text{T}_1$;

R₁₆ is hydrogen; or methyl;

T₁ is hydrogen; or C₁-C₈alkyl;

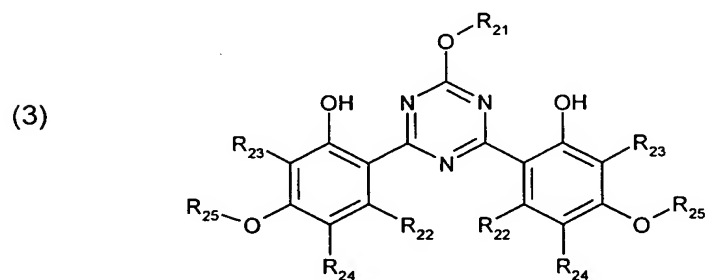
Q₁ is C₁-C₁₈alkyl;

M is a metal cation;

m₂ and m₃ are each independently of the other from 1 to 4; and

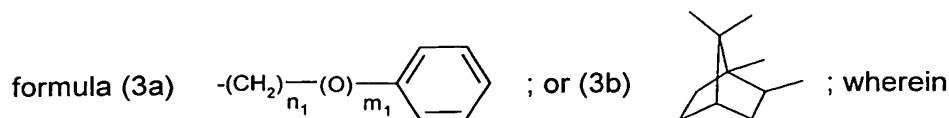
n₁ is from 1 to 16.

5. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula



wherein

R_{21} is C_1 - C_{30} alkyl; C_2 - C_{30} alkenyl; C_5 - C_{12} cycloalkyl unsubstituted or mono- or poly-substituted by C_1 - C_5 alkyl; C_1 - C_5 alkoxy- C_1 - C_{12} alkyl; amino- C_1 - C_{12} alkyl; C_1 - C_5 -monoalkylamino- C_1 - C_{12} alkyl; C_1 - C_5 dialkylamino- C_1 - C_{12} alkyl; a radical of



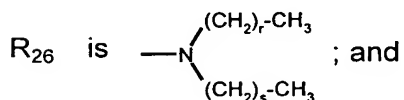
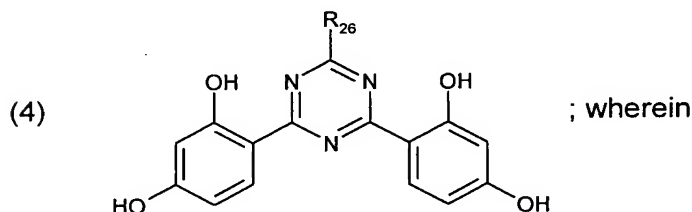
R_{22} , R_{23} and R_{24} are each independently of the others hydrogen, -OH; C_1 - C_{30} alkyl, C_2 - C_{30} alkenyl,

R_{25} is hydrogen; or C_1 - C_5 alkyl;

m_1 is 0 or 1; and

n_1 is from 1 to 5.

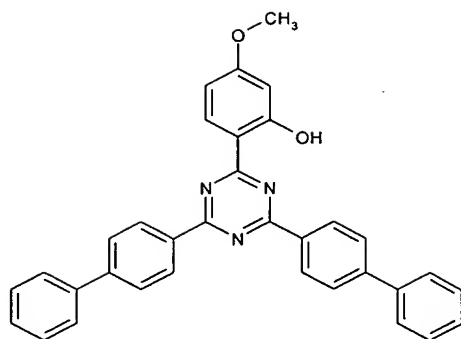
6. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula



r and s are each independently of the other from 0 to 20.

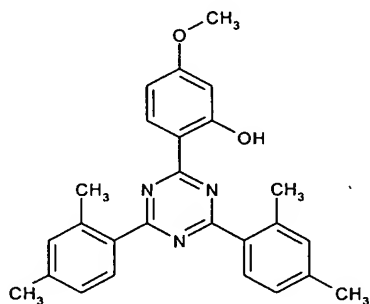
7. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula

(20a)



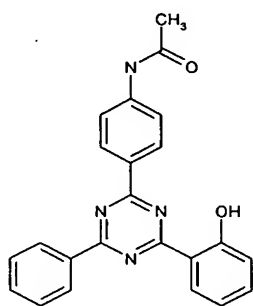
8. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula

(24a)

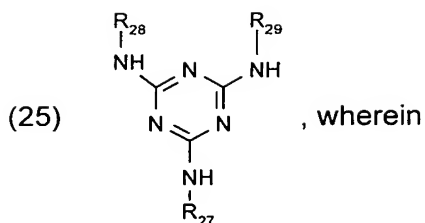


9. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula

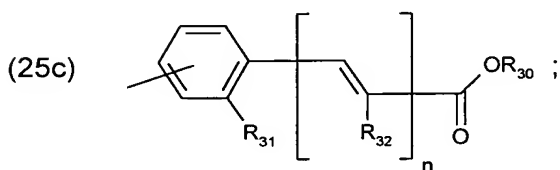
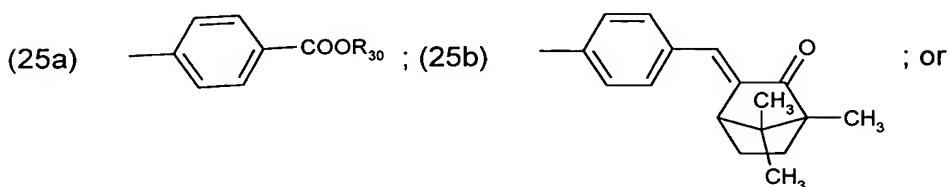
(24b)



10. Use according to claim 1 or 2, wherein the organic UV filters are selected from triazine derivatives of formula



R_{27} , R_{28} and R_{29} are each independently of the others a radical of formula



R_{30} is hydrogen; an alkali metal; an ammonium group $-N(R_{33})_4$,

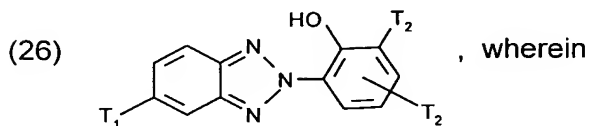
R_{33} is hydrogen, C_1 - C_5 alkyl; or a polyoxyethylene radical that has from 1 to 10 ethylene oxide units and the terminal OH group can be etherified with a C_1 - C_5 alcohol;

R_{31} is hydrogen; -OH; or C_1 - C_6 alkoxy;

R_{32} is hydrogen or $-COOR_{30}$; and

n is 0 or 1.

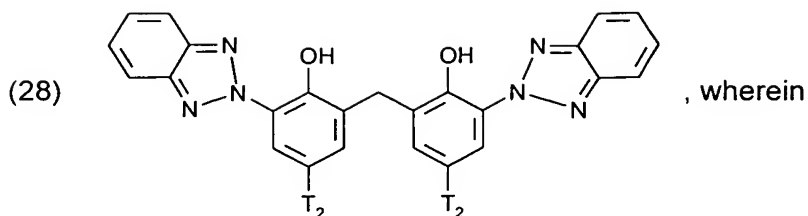
11. Use according to either claim 1 or claim 2, wherein the organic UV filters are selected from benzotriazole derivatives of formula



T_1 is C_1 - C_5 alkyl or hydrogen; and

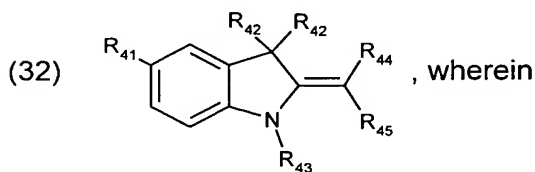
T_2 is C_1 - C_5 alkyl or phenyl-substituted C_1 - C_5 alkyl.

12. Use according to either claim 1 or claim 2, wherein the organic UV filters are selected from benzotriazole derivatives of formula



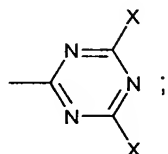
T_2 is C_1 - C_4 alkyl or phenyl-substituted C_1 - C_5 alkyl.

13. Use according to either claim 1 or claim 2, wherein the Fischer base aldehydes correspond to formula

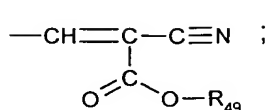


R_{41} is hydrogen; C_1 - C_5 alkyl; C_1 - C_{18} alkoxy; or halogen;

R_{42} is C_1 - C_8 alkyl; C_5 - C_7 cycloalkyl; or C_6 - C_{10} aryl;

R_{43} is C_1 - C_{18} alkyl or a radical of formula (32a)  ;

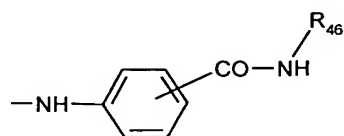
R_{44} is hydrogen; or a radical of formula $\text{—}\overset{\overset{R_{46}}{|}}{\text{C}}=\text{O}$;

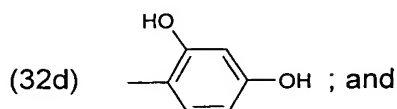
R_{45} is $\left[\overset{\overset{R_{47}}{|}}{\text{N}} \right]_n \text{—}\overset{\overset{R_{48}}{|}}{\text{C}}=\text{O}$; C_1 - C_{18} alkoxy; or a radical of formula (32b)  ;

R_{46} and R_{47} are each independently of the other hydrogen; or C_1 - C_5 alkyl;

R_{48} is hydrogen; C_1 - C_5 alkyl; C_5 - C_7 cycloalkyl; phenyl; phenyl- C_1 - C_3 alkyl;

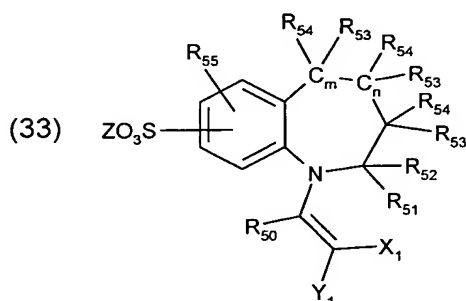
R_{49} is C_1 - C_{18} alkyl;

X is Hal; a radical of formula (32c)  ; or



n is 0; or 1.

14. Use according to claim 1 or 2, wherein the organic UV filters are selected from compounds of formula



wherein

R_{50} , R_{51} , R_{52} , R_{53} , R_{54} are each independently of the others hydrogen, C_1 - C_8 alkyl or C_5 - C_{10} -cycloalkyl;

R_{55} is hydrogen; C_1 - C_8 alkyl; C_5 - C_{10} cycloalkyl; hydroxy; C_1 - C_8 alkoxy; $COOR_{56}$; or $CONR_{57}R_{58}$;

R_{56} , R_{57} and R_{58} are each independently of the others hydrogen or C_1 - C_6 alkyl;

X and Y are each independently of the other hydrogen, -CN; CO_2R_{59} ; $CONR_{59}R_{60}$; or COR_{59} ; it being possible for the radicals X and Y additionally to be a C_1 - C_8 alkyl radical, a C_5 - C_{10} alkyl radical or a heteroaryl radical having 5 or 6 ring atoms, it also being possible for X and Y or

R_{50} together with one of the radicals X and Y to be the radical for completing a 5- to 7-membered ring which may contain up to 3 hetero atoms, it being possible for the ring atoms to be substituted by exocyclically double-bonded oxygen and/or by C_1 - C_8 alkyl and/or by C_5 - C_{10} cycloalkyl radicals and/or to contain C=C double bonds;

Z is hydrogen; ammonium; an alkali metal ion; or the cation of an organic nitrogen base used for neutralisation of the free acid group,

R_{59} and R_{60} are each independently of the other hydrogen, C_1 - C_8 alkyl or C_5 - C_{10} cycloalkyl; and

n and m are each independently of the other 0 or 1.

15. A process for the preparation of mixtures of the organic UV filters suitable for use according to the invention defined in any one of claims 1 to 14, wherein the UV filters, which are in micronised form, are intimately mixed together.

16. A process for the preparation of mixtures of the organic UV filters suitable for use according to the invention defined in any one of claims 1 to 14, wherein the organic UV filters are micronised in the form of mixtures of at least two single substances.

17. A process for the preparation of mixtures of the organic UV filters suitable for use according to the invention defined in any one of claims 1 to 14, wherein at least two single substances are melted together, the melt is cooled and the resulting composite is then subjected to a micronisation process.

18. A composite, obtainable by melting together at least two of the organic UV filters defined in any one of claims 1 to 14.

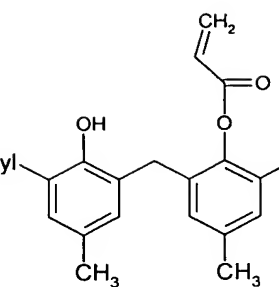
19. Use according to any one of claims 1 to 14, wherein an inorganic pigment is additionally incorporated into the mixture.

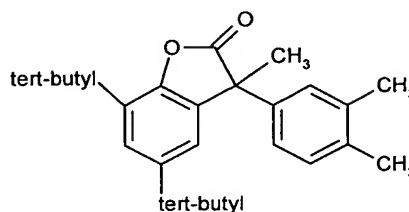
20. Use according to claim 19, wherein the inorganic pigments are selected from TiO_2 , ZnO , iron oxides, mica and titanium or zinc salts of organic acids.

21. A composite, obtainable by melting together at least two of the organic UV filters defined in any one of claims 1 to 14 and at least one of the inorganic pigments defined in claim 19 or 20.

22. Use according to any one of claims 1 to 14, wherein an antioxidant is additionally incorporated into the mixture.

23. Use according to claim 22, wherein the antioxidant is selected from tocopherols, ellagic acid, propyl gallate, butylated hydroxytoluene, butylated hydroxyanisole, 2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)mesitylene, tetrakis[methylene-3-(3',5'-di-tert-butyl-4'-hydroxyphenyl)-

propionate]methane, the compound of formula  , the

compound of formula  , vanillin, ubiquinone, ferulic acid,

ferulic acid derivatives, rutinic acid, rutinic acid derivatives; urocanic acid, urocanic acid derivatives; and propolis.

24. A composite, obtainable by melting together at least two of the organic UV filters defined in any one of claims 1 to 14 and at least one of the antioxidants defined in claim 22 or 23 and optionally one or more inorganic pigments.

25. Use according to any one of claims 1 to 14, wherein a cationic or anionic compound is incorporated into the mixture.

26. Use according to claim 24, wherein the cationic or anionic compound is selected from camphor benzalkonium methosulfates, fatty amines, betaines, quats, citric acid mono-glyceride, sodium methylcocoyl taurate, phospholipids, ceramides and phytosterols.

27. A composite, obtainable by melting together at least two of the organic UV filters defined in any one of claims 1 to 14 and at least one of the cationic or anionic compounds defined in claims 25 and 26.

28. Use according to any one of claims 1 to 14, wherein a pharmaceutical or cosmetic active ingredient is additionally incorporated into the mixture.

29. A cosmetic formulation, comprising a mixture of at least two of the organic UV filters

defined in any one of claims 1 to 14, optionally one or more antioxidants and/or inorganic pigments and/or a cationic or anionic compound, and also cosmetically acceptable carriers or adjuvants.

30. A cosmetic formulation according to claim 29, which additionally comprises an oil-soluble, non-micronised UV filter.

31. A pharmaceutical formulation, comprising a mixture of at least two of the organic UV filters defined in any one of claims 1 to 14, optionally one or more antioxidants and/or inorganic pigments and/or a cationic or anionic compound, and also pharmaceutically acceptable carriers or adjuvants.